

In the Abstract:

A hydraulic torque wrench system automates the tightening process by continuously operating the torque wrench to alternately advance and retract the wrench cylinder when the advance actuator is held by the operator until the desired pressure or torque is reached. If the advance actuator is released by the operator, the wrench retracts fully and stops advancing. If the advance actuator is not pressed for a period of time while the pump is running, the pump is automatically turned off. The pump can be turned off when the fastener has been tightened to the desired torque or pressure set point, or the pump can continue running in which event the reduction in duration of the alternation cycle between advancement and retraction of the torque wrench cylinder will audibly and visibly signal the operator that the fastener stopping point has been reached. ~~The system can store information correlating pressures with torques for the wrench being used and can include a user adjustable pressure relief valve so it can be used similar to a conventional system. The system controller can be provided with a communications port to communicate with an external computer, either directly or over a network.~~